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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,697	12/16/2003	Sung-Jae Cho	P56999	3543

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EXAMINER	
THOMPSON, MELISSA	

ART UNIT	PAPER NUMBER
1745	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/735,697	CHO, SUNG-JAE	
	Examiner	Art Unit	
	Melissa B. Thompson	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *see attached office action*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 37 and 38 have been added, 1-38 are pending;

Election/Restrictions

2. Applicant's election with traverse of Species II, claims 1-12, 19-24, and 21-36 in the reply filed on March 21, 2007 is acknowledged. The traversal is on the ground(s) that *"there must be a serious burden"*. This is found persuasive and restriction is withdrawn. Action on merits of claims 1-38 is set forth herein.

Information Disclosure Statement

3. The IDS filed December 9, 2004 has been considered.

Drawings

4. The drawings filed December 16, 2003 are accepted.

Claim Objections

5. Claim 11 is objected to because of the following informalities: Claim 11 states "the battery of claim 4", but Examiner believes claim 11 should state "the battery of claim 10". For reasons of compact prosecution, claim 11 is interpreted to rely on claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 37 and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Although the claims are withdrawn from consideration with respect to the restriction requirement, the claims contain new matter. Claims 37 and 38 are drawn to a "lead plate adapted in at least one cavity of the can", and are dependent upon claims that are drawn to a 'lead plate adapted to be pressed into at least on aperture of the cap plate". This is considered new matter because nowhere in the specification does it reasonably teach an embodiment that includes both a lead plate in the aperture of the cap plate and a lead plate in a cavity of the can. By not including a combination of these features, Applicant is introducing new matter to the claims and application.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5, 13-17, and 25-29 rejected under 35 U.S.C. 102(b) as being anticipated by Tadamitsu et al. (JP Publication Number 2002-334685).

Tadamitsu et al. disclose a secondary battery (1 in Figure 1). That includes a positive electrode plate, a negative electrode plate, and a separator

interposed between the positive and negative electrode plates (paragraph 24). Tadamitsu et al. disclose a metallic electrically conducting can (1a in Figure 1 and paragraph 24). The can includes a side opening (1d in Figure 1). Tadamitsu et al. disclose a cap assembly including a cap plate (2) and an electrode port (7 in Figure 3). The cap plate is couple to the side opening of the can (1d) and the electrode port (7) is coupled to the cap plate (2) via a gasket (6 in Figure 3). The electrode port (7) is connected to the positive electrode plate (paragraph 36). Tadamitsu et al. disclose that the cap assembly has an aperture (2e) in a side portion of the cap plate (2) where a lead plate (4) is pressed into the aperture (2e) of the cap plate (2) adapted to a safety device (4a in Figure 3, as applied to claims 1 and 13).

Tadamitsu et al. disclose forming an electrode assembly, with a can arranged to accommodate the electrode assembly (paragraph 24). Tadamitsu et al. disclose forming a side opening (1d) in the can (1a in Figure 1). A cap assembly including a cap plate (2) and an electrode port (7) is formed. The cap plate (2) is coupled to the side opening (1d) of the can in Figure 1. Tadamitsu et al. disclose forming an aperture (2e) in a side portion of the cap plate (2 in Figure 3). The electrode port (7) is coupled to the cap plate (2 in Figure 3). Tadamitsu et al. disclose connection the electrode port 97) to the positive electrode plate (paragraph 36). The lead plate (4) is pressed into the aperture (2e) of the cap plate (5) and the lead plate (4) is connected to the safety device (4a in Figure 2, as applied to claim 25).

Tadamitsu et al. disclose that the cap plate (2) is made from aluminum (paragraph 25, as applied to claims 2, 14, and 26).

Tadamitsu et al. disclose that the lead plate (4) comprises nickel (paragraph 29, as applied to claims 3, 15, and 27).

Tadamitsu et al. disclose that the lead plate (4) and the safety device (4a) are connected via a port member (4b or 4c), the port member (4b or 4c) welded to the lead plate (4 in Figure 3 and paragraph 29, as applied to claims 4, 16, and 28).

Tadamitsu et al. discloses that the port member (4b or 4c) comprises nickel (paragraph 29, as applied to claims 5, 17, and 29).

10. Claims 7, 9, 12, 19, 21, 24, 31, 33 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Masataka (JP Publication Number 07-169506).

Masataka teaches a battery (1 in Figure 1, which inherently has an electrode assembly including a positive electrode plate, a negative electrode plate, and a separator interposed between the positive and negative electrode plates. Masataka teaches that the can (2) is metallic and electrically conducting (paragraph 17) and is adapted to accommodate the electrode assembly and an electrolytic solution in Figure 1. The can (2) has a cavity (2a) in the external bottom surface and has a side opening (near the other end of the case (2), which houses the battery (1)). Masataka teaches a lead plate (4a or 4b) to be pressed into the cavity (2a) of the can (2) and that the lead plate (4a or 4b) is connected to a safety device (3 in Figure 1, as applied to claims 7 and 19).

Masataka teaches forming an electrode assembly and forming an electrically conducting can, the can adapted to accommodate the electrode assembly (paragraph 20). Masataka teaches forming at least on cavity (2a) in the external bottom surface of the can (2). Masataka teaches forming a cap assembly and coupling the cap assembly tot eh side opening of the can (paragraph 24). Masataka teaches pressing a lead plate (4a or 4b) into the cavity (2a) of the can (2) and connecting the lead plate (4a or 4b) to a safety device (3 in Figure 1, as applied to claim 31).

Masataka teaches that the lead plate (4a or 4b) comprises nickel (paragraph 18, as applied to claims 9, 21, and 33).

Masataka teaches a cap plate adapted to be couple to the side opening (1) of the can (2) and an electrode port adapted to be coupled to the cap plate via a gasket adapted to insulate the electrode port from the cap plate. Masataka teaches that the electrode port is connected to the positive electrode plate (paragraphs 17 and 24, as applied to claims 12, 24, and 36).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 6, 18, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadamitsu et al. (JP Publication Number 2002-334685) as applied to claims 1, 14, and 25 above, and further in view of Cho (U.S. Publication Number 2003/0077484 A1).

Tadamitsu et al. do not teach that the battery comprises a protecting case arranged between the electrode assembly and the cap assembly.

Cho teaches a protecting case (34 in Figure 3, as applied to claims 6 and 18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the protecting case of Cho in the cap assembly of Tadamitsu et al. The protecting case is used to insulate the cap assembly from the electrode assembly and prevent a constant conduction between the two. By including a protection plate in the cap assembly of Tadamitsu et al. will ensure that the lead plate is the only point that will conduct the charge of the battery. This also ensures that if there is a problem with the lead, the attached safety device will be able to prevent conduction. Without this protecting plate, the battery would continue to conduct a charge even when it shouldn't.

14. Claims 8, 10, 11, 20, 22, 23, 32, 34, and 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Masataka (JP Publication Number 07-169506) as applied to claims 7, 19, and 31 above, and further in view of Tadamitsu et al. (JP Publication Number 2002-334685).

The disclosure of Masataka with regard to claims 7, 19, and 31 has been discussed above and is incorporated herein.

Masataka does not teach that the can is made of aluminum or an aluminum alloy. Masataka does not teach that the lead plate and safety device are connected via a port member that is resistance welded to the lead plate or that the port member comprises nickel.

Tadamitsu et al. teach that the cap plate (2) is made from aluminum (paragraph 24, as applied to claims 8, 20, and 32).

Tadamitsu et al. disclose that the lead plate (4) and the safety device (4a) are connected via a port member (4b or 4c), the port member (4b or 4c) welded to the lead plate (4 in Figure 3 and paragraph 29, as applied to claims 10, 22, and 34).

Tadamitsu et al. discloses that the port member (4b or 4c) comprises nickel (paragraph 29, as applied to claims 11, 23, and 35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to make the can of Masataka out of aluminum like the can of Tadamitsu et al. The material of the can is a matter of design choice and changing out materials. Both cans are made out of a metallic electrically

conductive material. Therefore switching out the steal of Masataka for the aluminum of Tadamitsu et al. is only a matter of material choice and would be obvious to one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to swap out the lead plate/safety device part of Masataka for the lead plate connected to the safety device via a port of Tadamitsu et al. Both are made up of lead plates comprising nickel and a safety device between two end lead plates. The overall product is similar and would serve the same purpose. The only difference is the way that the safety device is connected to the lead plates, in Tadamitsu et al. it is via a port member while in Masataka they appear to be welded together. Therefore because both of the lead plate/safety device parts are made out of the same material and serve the same function, it would be obvious to one of ordinary skill in the art to swap out one for the other.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa B. Thompson whose telephone number is (571) 272-2758. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MBT

GREGG CANTELMO
PRIMARY EXAMINER

6/13/09